

**GRINNELL WASHING MACHINE COMPANY v.  
E. E. JOHNSON COMPANY.**

**CERTIORARI TO THE CIRCUIT COURT OF APPEALS FOR THE  
SEVENTH CIRCUIT.**

No. 272. Argued April 26, 29, 1918.—Decided June 10, 1918.

Patent No. 950,402, granted to W. F. Phillips, for a gearing device applied to a washing machine whereby the operation of wringing, in either direction, may be conducted and controlled simultaneously with the operation of washing, or separately, with one motor, is void for want of invention.

A combination of old elements, evolving no new coöperative function and producing no new result, other than convenience and economy, *held* not patentable.

231 Fed. Rep. 988, affirmed.

THE case is stated in the opinion.

*Mr. Melville Church* for petitioner.

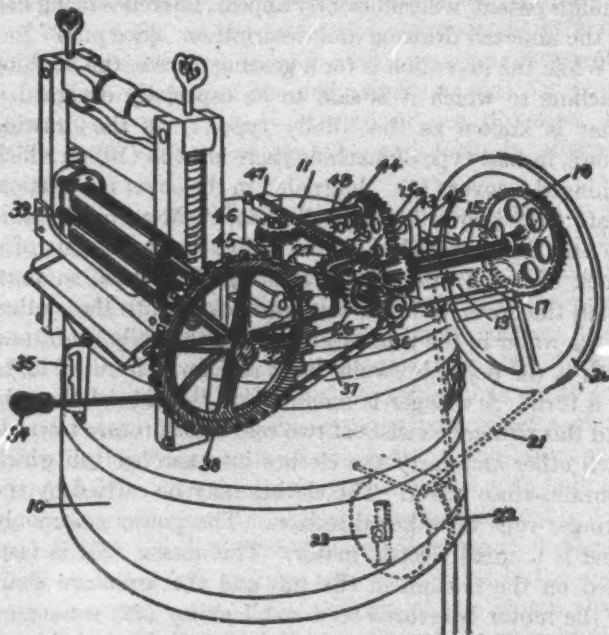
*Mr. Clarence E. Mehlhope* for respondent.

MR. JUSTICE DAY delivered the opinion of the court.

This suit was brought by the Grinnell Washing Machine Company against the E. E. Johnson Company for infringement of letters patent No. 950,402 granted to W. F. Phillips February 22, 1910. The patentee states the object of the invention to be "to provide a gearing

device of simple, durable and inexpensive construction, especially designed for use in operating washing machines and wringers, by means of power applied by an electric motor or other source of power."

The patent has been several times in litigation. In the United States District Court for the Southern District



of Iowa it was held valid and infringed. 209 Fed. Rep. 621. It was again sued upon in the same District Court, and upon appeal to the Circuit Court of Appeals for the Eighth Circuit a decree holding the patent valid and infringed was sustained. 222 Fed. Rep. 512. In the case at bar the patent was sustained in the District Court for the Southern District of Illinois where it was held valid and infringed, and a decree entered accordingly. From

this decree an appeal was taken to the Circuit Court of Appeals for the Seventh Circuit, and that court reversed the decree below, and held the patent invalid. 231 Fed. Rep. 988. A writ of certiorari brings the last-named case here.

The gearing device, which is the subject-matter of the Phillips patent, will sufficiently appear, reference being had to the annexed drawing and description. [See p. 427.]

While the invention is for a gearing device, the washing machine to which it is said to be especially designed is what is known as the "dolly type." As the drawing shows, in that type of machine there is a tub (10) on which is hinged a cover (11). Journaled in the cover is a vertical shaft (45), known as the dolly shaft. Mounted to slide up and down this shaft is the dolly, which consists of a block of wood with pins projecting downward, so that, when the cover is down, the pins extend into the clothes in the water in the tub. In operation the dolly shaft, and with it the dolly, is swung back and forth from  $\frac{1}{2}$  to  $\frac{3}{4}$  of a turn. A wringer is mounted on the side of the tub, and this wringer consists of two rolls which rotate towards each other and carry the clothes into another tub which contains rinse water. The clothes may be carried by the wringer rolls in either direction. The power commonly used is a small electric motor. This motor (23) is fastened on the bottom of the tub and the armature shaft of the motor is secured to a small pulley (22) connected by a belt (21), with a balance wheel (20) journaled on a stub shaft supported from the bracket (13). This large pulley wheel or belt wheel has secured on the hub a small spur gear pinion (17), which meshes with a large spur gear wheel (16), which is secured on the outer end of the horizontal power shaft (15), which is journaled in two bearings (14) projecting upward from the bracket or bearing. When the motor is running the train of gearing keeps the power shaft (15) running always in the same

direction at an average slower rate of speed than the armature shaft of the motor. The power shaft swings and rotates the vertical dolly shaft back and forth. A spur gear pinion (40), secured on the shaft (15), meshes with the larger spur gear wheel (44), secured on the shaft (43), journaled in bearings (42). The spur gear wheel (44) carries an eccentric gear, which is connected by a pitman (48) with a pin on the horizontal reciprocating rack bar (47). This rack bar is in mesh with a spur gear pinion (46) secured on the top of the dolly shaft, so that the power shaft being continuously rotated in one direction, the dolly shaft (45) is swung back and forth in alternate directions.

From the power shaft (15) a train of gearing to the wringer rolls has secured on it a small bevel gear (15a), which meshes with two mitre gears (26 and 27) mounted on a shaft (24) extending at right angles to the power shaft. The shaft (24) has secured on it, so that it can slide back and forth on the shaft, but must always rotate with the shaft, a clutch sleeve (30), which has on its ends clutch teeth shaped to be engaged with similar clutch teeth on the inner ends of the hubs of the mitre gears (26 and 27). The clutch sleeve is engaged with only one mitre gear at a time, and if it engages with one mitre gear, the wringer rolls are rotated in one direction; if it engages with the other, the wringer rolls are rotated in the opposite direction, so that the shifting of the clutch sleeve reverses the direction of the rotation of the wringer rolls. To do this shifting there is an operating handle (34), which extends beneath the wringer to a position where it can be readily operated by the person doing the washing. The handle (34) is secured on the end of a rock shaft (32), which has an upwardly projecting arm (33) that fits into an annular groove (30), into the clutch sleeve (29), so that as you swing the handle the clutch sleeve is moved from one position to another. The connection between

shaft (24) and shaft (39) on which the wringer roll is secured, consists of a sprocket pinion (36) secured on the outer end of the shaft (24) connected by a sprocket chain (37) with a large sprocket wheel (38) secured on the outer end of the shaft (39).

The method of operation is to place a batch of clothing in soapy water in the tub, and, when the electric motor is started, the driving shaft and the spur gear pinion, secured thereon, are put into rotation; when the hinged cover of the machine is brought down it has the effect of causing the spur gear wheel to go into mesh with the spur gear pinion and to set the dolly shaft and its head into reciprocating motion, thus scrubbing the clothes in the tub. When the cover of the washer is swung up, the gear of the dolly is automatically thrown out of gear with the pinion, the main driving shaft still continuously rotating. The operating handle is shifted so as to cause the clutch sleeve to engage with the hub of the bevel pinion, thereby causing the bevel pinion secured to the end of the main drive shaft to drive the shaft (24) and through the latter the sprocket wheel (36), the chain (37), the sprocket wheel (38) and the shaft of the lower wringer roll, causing the wringer rolls to rotate so that a garment placed between them will be carried outwardly. When the first batch of clothes has been washed, and passed through the wringer, a second batch of clothes is inserted in the soapy water in the washer, and the cover of the washer again swung down, thereby, in the manner described, putting the dolly into action again. While the second batch of clothes is being washed, the operator shifts the handle which controls the wringing mechanism, so as to reverse the motion of the wringer rolls, so that the garments in the rinse water tub may be passed back through the rolls of the wringer, and cast into a hamper. The second action of the wringer rolls takes place simultaneously with the washing of the second batch of clothes.

The net result, it is contended, of the Phillips patent is that the washing and wringing are carried on simultaneously and the operations of the wringer rolls are controlled by the handle described.

The claims alleged to be infringed are numbers five to eight inclusive. Number six was selected by the petitioner as typical in character, and is as follows:

"6. A gearing device of the class described, comprising a support, a power shaft mounted on the support, means for imparting a continuous rotary motion to the power shaft, an upright shaft 45 mounted in the support, a driving device for the upright shaft operatively connected with the power shaft and capable of imparting an alternating rotary motion to the upright shaft, a horizontal shaft 39, a driving mechanism for the said shaft 39 connected with the power shaft and capable of imparting a rotary motion to the shaft 39, and a controlling means applied to the driving device for the shaft 39, for reversing the movement thereof and also for operatively disconnecting the shaft 39 from the driving shaft."

Confessedly all the elements of the Phillips patent are old. The merits of the combination, which, it is contended, involve invention and validate the patent, are that this gearing device, applied and operated as specified, enables the washing of a part of the clothes to be performed at the same time that the wringing process is being applied to other clothes. Thus, it is said, saving time in doing the washing, and, furthermore, by the operation of the control handle the rolls may be reversed or instantly stopped as the need, convenience and safety of the operator may require. These things, the simultaneous washing and wringing, with the operation of the control handle, for the purposes stated, embrace the advances alleged to have been accomplished upon the prior art. In this view it is unnecessary to particularize the prior patents disclosed in the art. The question is, does this



bringing together of old elements accomplishing the purposes stated amount to that combination which is invention within the meaning of the patent law; or does the gearing device, thus applied and used, show only an aggregation of old elements performing well-known functions, producing no novel and useful result entitling the aggregation to the protection of a patent?

It is not always easy to decide this question, as the difference of opinion in the Circuit Courts of Appeals in this case illustrates. Generally speaking, a combination of old elements in order to be patentable must produce by their joint action a novel and useful result, or an old result in a more advantageous way. To arrive at the distinctions between combinations and aggregations definite reference must be had to the decisions of this court. The subject was fully discussed in *Palmer v. Corning*, 156 U. S. 342, wherein the previous decisions were reviewed. The rule stated in *Hailes v. VanWormer*, 20 Wall. 353, 368, was quoted with approval, wherein the court said:

"It must be conceded that a new combination, if it produces new and useful results, is patentable, though all the constituents of the combination were well known and in common use before the combination was made. But the results must be a product of the combination, and not a mere aggregate of several results, each the complete product of one of the combined elements. Combined results are not necessarily a novel result, nor are they an old result obtained in a new and improved manner. Merely bringing old devices into juxtaposition, and there allowing each to work out its own effect without the production of something novel, is not invention. No one by bringing together several old devices without producing a new and useful result, the joint product of the elements of the combination and something more than an aggregate of old results, can acquire a right to prevent others from

using the same devices, either singly or in other combinations, or, even if a new and useful result is obtained, can prevent others from using some of the devices, omitting others, in combination." *Hailes v. Van Wormer*, 20 Wall. 353, 368.

In *Richards v. Chase Elevator Co.*, 158 U. S. 299, 302, the rule was stated as follows:

"Unless the combination accomplishes some new result, the mere multiplicity of elements does not make it patentable. So long as each element performs some old and well-known function, the result is not a patentable combination, but an aggregation of elements."

In *Specialty Manufacturing Co. v. Fenton Metallic Manufacturing Co.*, 174 U. S. 492, 498, the rule was again tersely stated:

"Where a combination of old devices produces a new result such combination is doubtless patentable, but where the combination is not only of old elements, but of old results, and no new function is evolved from such combination, it falls within the rulings of this court in *Hailes v. Van Wormer*, 20 Wall. 353, 368; *Reckendorfer v. Faber*, 92 U. S. 347, 356; *Phillips v. Detroit*, 111 U. S. 604; *Brinkerhoff v. Aloe*, 146 U. S. 515, 517; *Palmer v. Corning*, 156 U. S. 342, 345; *Richards v. Chase Elevator Co.*, 158 U. S. 299."

Applying the rule thus authoritatively settled by this court, we think no invention is shown in assembling these old elements for the purposes declared. No new function is "evolved from this combination;" the new result, so far as one is achieved, is only that which arises from the well-known operation of each one of the elements.

In the gearing specified every element is old. The operations of the wringer and the washing machine, although simultaneous, are independent one of the other. The control of the operation of the wringer is by an old and well-known method. From the coöperation of the ele-



Dissent.

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ments, here brought together, no new result, involving the exercise of the creative faculty which is invention, is achieved. Phillips may have produced a more convenient and economical mechanism than others who preceded him, but superiority does not make an aggregation patentable. *Specialty Manufacturing Co. v. Fenton Metallic Manufacturing Co.*, *supra*. The assemblage of the old elements, and their operation in the manner indicated, may save time, and the mechanism may meet with a readier sale than other similar devices, but these things may result from mechanical skill and commercial enterprise, and do not necessarily involve invention.

To borrow an illustration made at the argument, we think the Phillips aggregation of elements may be likened to the operation of a number of different machines in a factory by power applied from the same line shaft, each operation contributing its separate part to the production of a given result. So in this instance we think the combination accomplished by Phillips fails to show that exercise of invention, producing a novel and useful result from the coöperating action of the elements, which is essential to distinguish patentable combination from an aggregation of old elements so placed by mechanical skill as to do work more rapidly and economically.

We agree with the conclusion reached by the court below.

*Affirmed.*

MR. JUSTICE MCKENNA dissents.